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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,061	07/31/2003	Thomas R. Forrer JR.	AUS920030307US1	3511

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EXAMINER
BATAILLE, PIERRE MICHE

ART UNIT	PAPER NUMBER
2186	

DATE MAILED: 09/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 August 2006</u>.

2a)☒ This action is **FINAL**.　　　2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-48</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-48</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   The present Office Action is taken in response to applicant's communication filed

August 3, 2006, which follows Examiner's interview dated August 2, 2006, and all to

respond to Non-Final Rejection dated May 4, 2006. Applicant's arguments and/or

arguments have been considered with the results that follow.

2.   Applicant's arguments filed August 3, 2005 have been fully considered but they

are not deemed to be persuasive for at least the following remarks.

Applicant initiated a telephone interview, between Mr. Theodore Fay (applicant's representative) and the examiner, taken place on August 2, 2006 where arguments by the applicant were that the applied references, US 6,052,798 (Jeddeloh) and US 2002/0126408 (Okuyama et al), fail to teach, as requested in the claims, "verifying condition of the storage drive media"; and in reply to applicant argument, arguments by the examiner were that the claimed "condition of storage device's media" can be translated as "verifying he parameters associated with the storage media" or "verifying whether the storage media is readable or writable". Applicant's representative, Mr. Theodore Fay noted that he would look into amending the claims to distinguish the invention from the prior art of record.

To follow the interview, it is noted that the applicant has not amended the claims as previously indicated, but rather argued a feature that was argued and settled in a previous examiner's interview, specifically the feature "receiving within storage drive a command to verify storage condition of said storage drive's media". This feature was argued in the interview dated March 29, 2006 where it was agreed that Jeddeloh (US 6,052,798) alone does not clearly satisfy such requirement but such feature was embedded in "the memory access request received from a memory requester, such as the system processor, the memory access request to include an indication of whether a read or a write is being requested together with an address of the requested memory portion of the

memory block, and the request to determine whether the requested memory portion of the memory block is defective (i.e. readable or writable) (See steps 64 and 66, Fig. 3; Col. 5, Lines 51-61).

Although the claimed requirement was inherent in the memory access request because a determination of whether the address was defective or not takes place along with the access request, the examiner introduced Okuyama's disclosure (US 2002/0126408) which clearly teaches disk apparatus and information processing system, magnetic disk apparatus to include a requesting unit for requesting the magnetic disk apparatus determine performance of the magnetic disk apparatus, the magnetic disk apparatus comprising a re-setting unit *to request the CPU to issue a set feature command in order to set the performance parameter of the information recording/reproducing unit*, i.e. said recording/reproducing apparatus setting the drive to a writable/readable state, the performance parameters corresponding to the claimed condition of the drive's media.

Please note that claim 1, as an example, requires "verifying *condition* of said storage drive's media and condition in a plain definition defines as "a state a readiness" and as in the specification and the claims "the drive's media being either writable or non-writable", i.e. being ready or not ready for write. Both references address this concept of verifying condition of the drive whether clearly

or inherently and both references address the feature of "receiving within storage

drive a command to verify storage condition of said storage drive's media"

whether clearly, in the case of Jeddeloh, or inherently, in the case of Okuyama.

In view of the above remarks, the rejection is maintained and repeated below.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-5, 10, 12-21, 26-37, and 42-49 are rejected under 35 U.S.C. 103(a) as

being unpatentable over US 6,052,798 (Jeddeloh) in view of US 2002/0126408

(Okuyama et al).

5.   With respect to claims 1, 17, and 33, Jeddeloh discloses a computer

program/method in a data processing system including a storage drive for verifying a

condition of said storage drive's media, comprising:

A)   *step 64, a memory access request is received from a memory*

requester, such as the system processor,

B)   in response to a receipt of said command, attempting, by said storage

drive, to read each one of a plurality of logical block addresses included in said

storage drive *(the memory access request to include an indication of whether a read or a write is being requested together with an address of the requested memory portion of the memory block)*; and

C)   verifying said condition of said media by determining, by said storage drive, ones of said plurality of logical block addresses that are not in a readable condition *(step 66 determines whether the requested memory portion of the memory block is defective) [See steps 64 and 66, Fig. 3; Col. 5, Lines 51-61]*.

Although such a command is embedded with the read/write command which verify whether a block of the storage device from which to read is readable and to which to write is writable, Jeddeloh fails to specifically teach receiving within said storage drive a <u>command to verify said condition of said storage drive's media</u>. However, Okuyama teaches disk apparatus and information processing system, magnetic disk apparatus to include a requesting unit for requesting the magnetic disk apparatus to re-set a value of specification information capable of determining performance of the magnetic disk apparatus, the magnetic disk apparatus comprising a re-setting unit to request the CPU to issue a set feature command in order to set the performance parameter of the information recording/reproducing unit 23 [Fig. 14; 204, Fig. 8; Par. 0062, 0056, 0070], said recording/reproducing apparatus setting the drive to a writable/readable state [306-311, Fig. 14]. Therefore, it would have been obvious to one of ordinary skill in the art as with each read or write, the condition of the storage device is verified along with the read or the write. One of ordinary skill in the art would have obviously combine the two

references because both are in the same field and a command to verify said condition

of said storage drive's media would have provided the addition of a flag/state identifying

readable/writable block of the disk apparatus and as well as a flag/state identifying

unreadable/unwritable block of the disk apparatus.

6.   With respect to claims 2, 18, and 34, Jeddeloh discloses

        reassigning each one of said ones of said plurality of logical block addresses that

        are not in a readable condition to a new logical block address *[(mapping the*

        defective memory portions determined in step 50 to non-defective memory

        portions in the reserved memory region) Step 60, Fig. 2; Col. 5, Lines 41-

        43].

7.   With respect to claims 3, 19, and 35, Jeddeloh discloses:

        A)   determining, by said storage drive, ones of said plurality of logical block

        addresses that are nonreadable *(determining defective memory portions;*

        step 50, Fig. 2);

        B)   determining whether nonreadable logical block addresses are to be

        reassigned *[Col. 5, Lines 20-27]*;

        C)   in response a determination that nonreadable logical block addresses are

        not to be reassigned, leaving said ones of said plurality of logical block

        addresses that are nonreadable unaltered without reassigning said ones of said

plurality of logical block addresses that are nonreadable *[Col. 5, Lines 26-34]*;

and

D)   in response to a determination that nonreadable logical block addresses

are to be reassigned, reassigning said ones of said plurality of logical block

addresses that are nonreadable *[Col. 5, Lines 20-34]*.

8.   With respect to claims 4, 20, and 36, Jeddeloh discloses

determining whether nonreadable logical block addresses are to be reassigned

by checking the status of a parameter, said parameter indicating whether

nonreadable logical block addresses are to be reassigned *(checking the error*

map to determine whether logical blocks are to be reassigned) [Col. 5,

Lines 15-34; Fig. 2].

9.   With respect to claims 5, 21, and 37, Jeddeloh discloses

receiving within said storage drive a single command to verify said condition of

said storage drive's media *[Col. 5, Lines 52-59]*.

10.   With respect to claims 27, 39, and 49, Jeddeloh discloses

during said verification, maintaining a list of said ones of said plurality of logical

block addresses that are not in a readable condition *[Col. 3, Lines 49-59]*.

11.   With respect to claims 12, 28, and 44, Jeddeloh discloses

verifying said condition of said media without altering data stored on said storage

drive *[Col. 4, Lines 31-41]*.

With respect to claims 13, 29, and 45, Jeddeloh discloses verifying said condition

of said media without altering customer data stored on said media *[Col. 4, Lines

14-41; Col. 5, Lines 15-34]*.

With respect to claims 14, 30, and 46, Jeddeloh discloses said storage drive

being coupled to a host computer system; querying said storage drive by said

host computer system during said verification; and transmitting a response to

said query from said storage device to said host computer system during said

verification *[Col. 4, Lines 31-41; Col. 5, Lines 15-34]*.

12.   With respect to claims 15, 31, and 47, Jeddeloh discloses

querying said storage drive by said host computer system during said

verification, said query requesting a completion status; and transmitting a

percentage completion from said storage device to said host computer system

during said verification *[Col. 4, Lines 5-48]*.

13.   With respect to claims 16, 32, and 48, Jeddeloh discloses

querying said storage drive by said host computer system during said

verification, said query requesting a list of reassigned logical block addresses;

and transmitting said list from said storage device to said host computer system

during said verification *[Col. 5, Lines 15-34; Col. 6, Lines 9-23]*.

Claim Rejections - 35 USC § 103

14.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

15.   Claims 6-9, 22-25, and 38-41 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US 6,052,798 (Jeddeloh) in view of US 2002/0126408 (Okuyama et

al) and further in view of US 4,864,532 (Reeve et al).

16.   With respect to claims 6-8, 22-24, and 38-40, the combination of Jeddeloh and

Okuyama teaches the invention as claimed; Jeddeloh additionally discloses: the

memory device being nonvolatile memory such as EEPROM or flash memory [Col. 3,

Lines 6-10; Col. 3, Lines 41-45] the memory being coupled through memory and

expansion bus (26, Fig. 2); but the combination fail to specifically teach coupling and

decoupling itself from the host. However, Reeve discloses sequence of operations

operated in the sequential handling of data transfer operations where disk drive

reconnects and disconnects itself to/from to data link processor in the process of

transferring data complete I/O cycled operations [Col. 12, Lines 4-31]. Therefore, it

would have been obvious to one of ordinary skill in the art, that storage medium couples

and decouples itself from the host, as taught by Reeve, in order to continue an

operation which was previously started by the data link processor.

17.   With respect to claims 9, 25, and 41, the combination of Jeddeloh and Okuyama

teaches the invention as claimed; Jeddeloh additionally discloses: the memory device

being nonvolatile memory such as EEPROM or flash memory [Col. 3, Lines 6-10; Col.

3, Lines 41-45]; the memory being coupled through memory and expansion bus (26,

Fig. 2); but the combination fail to specifically teach coupling said storage drive to a host

utilizing a SCSI bus.   However, Reeve discloses sequence of operations operated

in the sequential handling of data transfer operations Small computer systems interface

(SCSI) bus [abstract; title]. Therefore it would have been obvious to one of ordinary skill

in the art, to utilize SCSI bus, as taught by Reeve, because SCSI controls information

transfer between a host computer system and certain compatible target devices.

18.   Claims 10, 26, and 42 are rejected under 35 U.S.C. 103(a) as being

unpatentable over US 6,052,798 (Jeddeloh) in view of US 2002/0126408 (Okuyama et

al) and further in view of US 6,332,204 (Russell).

        With respect to claims 10, 26, and 42, the combination of Jeddeloh and

        Okuyama teaches the invention as claimed; Jeddeloh additionally discloses the

        use of an error table to reassign logical block addresses; but the combination fail

        to specifically teach determining block addresses that require error recovery

        procedures.

        However, Russell discloses determining logical block addresses that require

        error recovery procedures and reassigning block addresses that require error

        recovery procedures [abstract; Col. 2, Lines 22-26]. Therefore, it would have

been obvious to one of ordinary skill in the art, to recover failing sectors because

data within a failing sector could be recovered before the sector becomes

completely unrecoverable, as taught by Russell [Col. 2, Lines 26-29].

Conclusion

19.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

20.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

21.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Pierre-Michel Bataille whose telephone number is (571)

272-4178. The examiner can normally be reached on Mon-Fri (8:00A to 4:30P).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew M. Kim can be reached on (571) 272-4182. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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Business Center (EBC) at 866-217-9197 (toll-free).

Pierre-Michel Bataille
Primary Examiner
Art Unit 2186

September 16, 2006

PIERRE BATAILLE
PRIMARY EXAMINER